



PIER Energy System Integration Program Area

Field Trials of Promising Prototype And/Or Emerging Energy Storage Options for T&D Applications

Contract #: 500-00-023 **Project #:** 53

Contractor: Electric Power Research Institute (EPRI)

Project Amount: \$31,111

Contractor Project Manager: Steve Eckroad (650) 855-1066

Commission Contract Manager: Jamie Patterson (916) 657-4819

Status: Completed

Project Description:

The purpose of this project is to demonstrate promising new energy storage options designed specifically for transmission and distribution (T&D) reliability, peak shaving, and VAR control applications. The project will select final design parameters, perform cost/benefit studies, assist in building unit(s), install independent performance monitoring equipment, analyze operating data, and conduct long-term reliability and operational analyses.

This project supports the PIER Program objective of:

- Improving the reliability/quality and the energy cost/value of California's electricity through innovative energy storage technologies that help increase grid utilization while maintaining system stability.

Proposed Outcome:

1. Reduce capital costs and maximize T&D equipment use factors by deploying energy storage equipment based on credible cost and performance data from field trial demonstrations of candidate energy storage options.

Project Status:

In fall 2002 EPRI and AEP signed a tailored collaboration agreement to demonstrate a 100 kW (500 kW power quality), 750 kWh peak shaving sodium sulfur (NaS) battery. This battery has been successfully installed at an AEP office building near Columbus, Ohio. A two-year test program is planned and will be conducted in follow on activities. The report *Field Trial of AEP Sodium -Sulfur (NAS) Battery Demonstration Project #1001835* will be delivered in 2003. The 2002 funded portion of the project is completed.